EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	198	568/12.ccls.	USPAT; DERWENT	OR	ON	2006/09/19 10:59
S2	0	wo-2001077217-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 07:54
S3	1	wo-200177217-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 08:28
S4	0	"3970726.p.."	USPAT; DERWENT	OR	ON	2006/09/22 08:30
S5	0	"3970726.pn."	USPAT; DERWENT	OR	ON	2006/09/22 08:31
S6	2	"4054543".pn.	USPAT; DERWENT	OR	ON	2006/09/22 08:47
S7	1	wo-2003102004-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 08:48
S8	7	(("5438086") or ("5674927") or ("6656887") or ("6657025") or ("6657032") or ("5364895") or ("6613823")).PN.	USPAT	OR	OFF	2006/09/22 10:06
S9	3	"4305866".pn.	USPAT; DERWENT	OR	ON	2006/09/22 10:02
S10	0	wo-JP2002155179-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 10:02
S11	1	JP-2002155179-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 10:04
S12	2	"4463112".pn.	USPAT; DERWENT	OR	ON	2006/09/22 10:05
S13	1	jp-58122951-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 10:07
S14	1	ep-48878-$.did.	USPAT; DERWENT	OR	ON	2006/09/22 10:14
S15	3	"2847443".pn.	USPAT; DERWENT	OR	ON	2006/09/22 10:31

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Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssptabf1626

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	FEB 27	New STN AnaVist pricing effective March 1, 2006
NEWS	4	MAY 10	CA/CAplus enhanced with 1900-1906 U.S. patent records
NEWS	5	MAY 11	KOREAPAT updates resume
NEWS	6	MAY 19	Derwent World Patents Index to be reloaded and enhanced
NEWS	7	MAY 30	IPC 8 Rolled-up Core codes added to CA/CAplus and USPATFULL/USPAT2
NEWS	8	MAY 30	The F-Term thesaurus is now available in CA/CAplus
NEWS	9	JUN 02	The first reclassification of IPC codes now complete in INPADOC
NEWS	10	JUN 26	TULSA/TULSA2 reloaded and enhanced with new search and and display fields
NEWS	11	JUN 28	Price changes in full-text patent databases EPFULL and PCTFULL
NEWS	12	JUl 11	CHEMSAFE reloaded and enhanced
NEWS	13	JUl 14	FSTA enhanced with Japanese patents
NEWS	14	JUl 19	Coverage of Research Disclosure reinstated in DWPI
NEWS	15	AUG 09	INSPEC enhanced with 1898-1968 archive
NEWS	16	AUG 28	ADISCTI Reloaded and Enhanced
NEWS	17	AUG 30	CA(SM)/CAplus(SM) Austrian patent law changes
NEWS	18	SEP 11	CA/CAplus enhanced with more pre-1907 records
NEWS	19	SEP 21	CA/CAplus fields enhanced with simultaneous left and right truncation

NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8
NEWS X25	X.25 communication option no longer available

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * * * *

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FILE 'HOME' ENTERED AT 09:55:40 ON 22 SEP 2006

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 09:55:50 ON 22 SEP 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 21 SEP 2006 HIGHEST RN 908228-18-2
DICTIONARY FILE UPDATES: 21 SEP 2006 HIGHEST RN 908228-18-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

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be available. Please contact CAS Customer Care
(http://www.cas.org/supp.html) if you have a need for 3D coordinates.

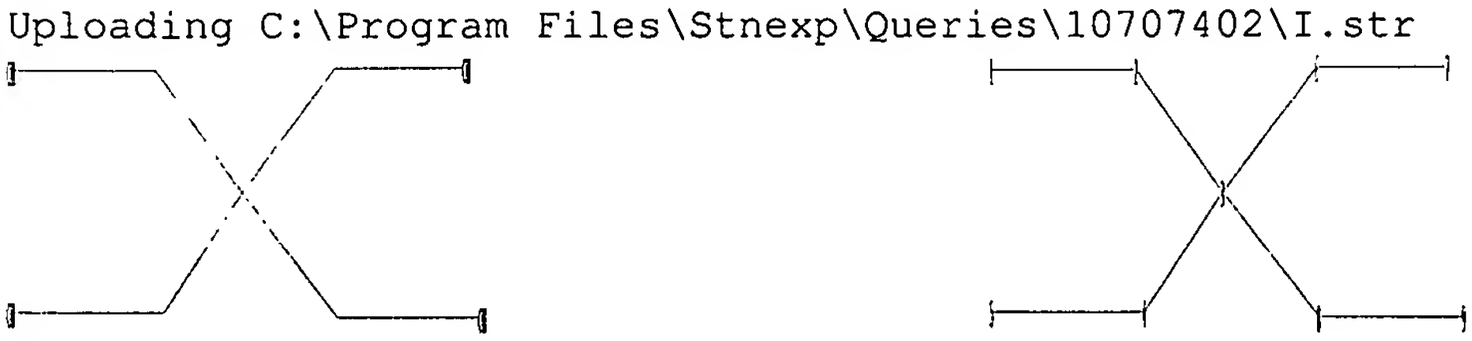
TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

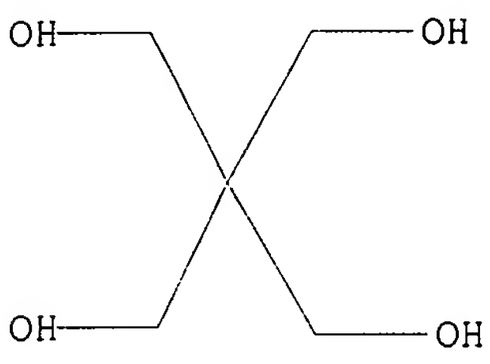
=>
Uploading C:\Program Files\Stnexp\Queries\10707402\I.str



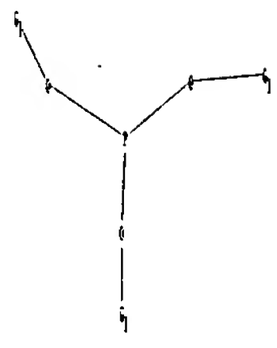
chain nodes :
1 2 3 4 5 6 7 8 9
chain bonds :
1-2 2-3 3-4 3-6 3-8 4-5 6-7 8-9
exact/norm bonds :
1-2 4-5 6-7 8-9
exact bonds :
2-3 3-4 3-6 3-8

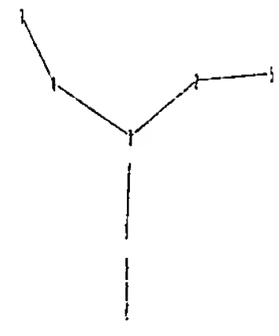
Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS

```
L1       STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1                 STR
```




```
Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 09:56:09 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     7535 TO ITERATE

 26.5% PROCESSED     2000 ITERATIONS                                 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       145497 TO   155903
PROJECTED ANSWERS:            4095 TO     6001

L2            50 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 09:56:13 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   147631 TO ITERATE

100.0% PROCESSED   147631 ITERATIONS                             5851 ANSWERS
SEARCH TIME: 00.00.01

L3          5851 SEA SSS FUL L1

=>
Uploading C:\Program Files\Stnexp\Queries\10707402\monophosphite.str
```





chain nodes :
1 2 3 4 5 6 7
chain bonds :
1-2 1-3 1-4 2-5 3-6 4-7
exact/norm bonds :
1-2 1-3 1-4 2-5 3-6 4-7

G1:CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,Ph

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS

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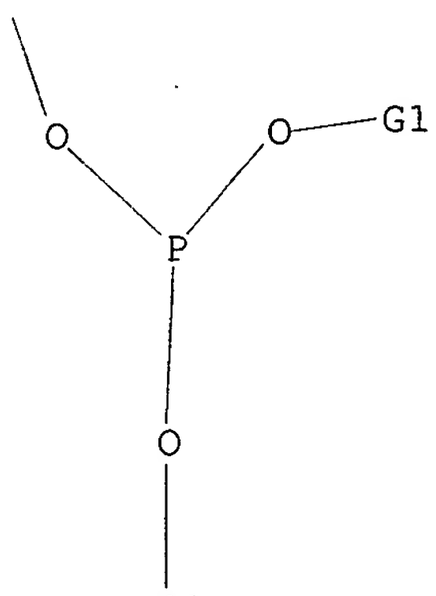
L4 STRUCTURE UPLOADED

=> d
L4 HAS NO ANSWERS
L4 STR



G1 Me,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,Ph

Structure attributes must be viewed using STN Express query preparation.

=> s l4
SAMPLE SEARCH INITIATED 09:56:38 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 24714 TO ITERATE

8.1% PROCESSED 2000 ITERATIONS 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 484874 TO 503686
PROJECTED ANSWERS: 19770 TO 23726

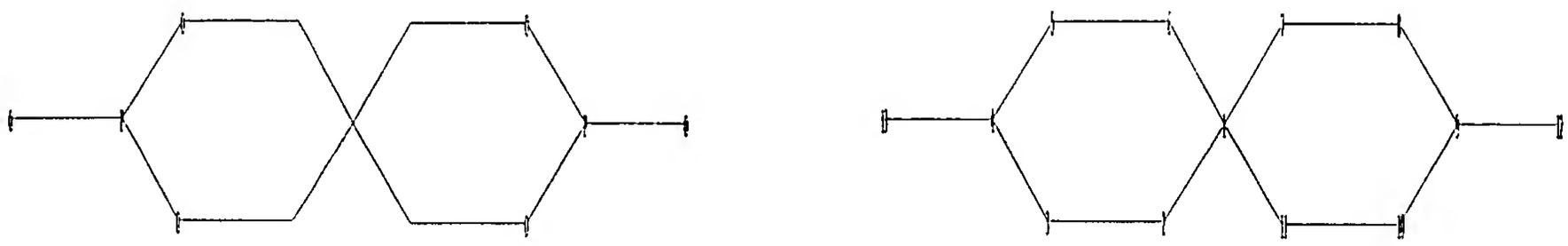
L5 50 SEA SSS SAM L4

=> s l4 full
FULL SEARCH INITIATED 09:56:44 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 493687 TO ITERATE

100.0% PROCESSED 493687 ITERATIONS 21610 ANSWERS
SEARCH TIME: 00.00.03

L6 21610 SEA SSS FUL L4

=>
Uploading C:\Program Files\Stnexp\Queries\10707402\a.str

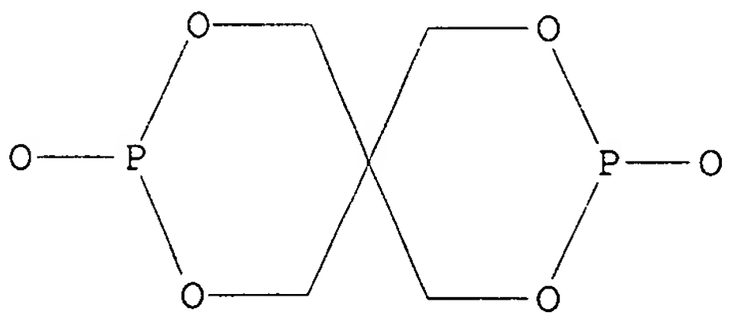


chain nodes :
12 13
ring nodes :
1 2 3 4 5 6 7 8 9 10 11
chain bonds :
4-13 9-12
ring bonds :
1-2 1-6 1-7 1-11 2-3 3-4 4-5 5-6 7-8 8-9 9-10 10-11
exact/norm bonds :
1-2 1-6 1-7 1-11 2-3 3-4 4-5 4-13 5-6 7-8 8-9 9-10 9-12 10-11

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:CLASS 13:CLASS

L7 STRUCTURE UPLOADED

=> d
L7 HAS NO ANSWERS
L7 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l7 full
FULL SEARCH INITIATED 09:57:16 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 968 TO ITERATE

100.0% PROCESSED 968 ITERATIONS 480 ANSWERS
SEARCH TIME: 00.00.01

L8 480 SEA SSS FUL L7

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	500.82	501.03

FILE 'CAPLUS' ENTERED AT 09:57:21 ON 22 SEP 2006
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FILE COVERS 1907 - 22 Sep 2006 VOL 145 ISS 14
FILE LAST UPDATED: 21 Sep 2006 (20060921/ED)

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http://www.cas.org/infopolicy.html

```
=> s l3 and l6 and l8
         14466 L3
         37753 L6
          2341 L8
L9          36 L3 AND L6 AND L8

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     1.38     502.41
```

FILE 'REGISTRY' ENTERED AT 09:59:02 ON 22 SEP 2006
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STRUCTURE FILE UPDATES: 21 SEP 2006 HIGHEST RN 908228-18-2
DICTIONARY FILE UPDATES: 21 SEP 2006 HIGHEST RN 908228-18-2

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

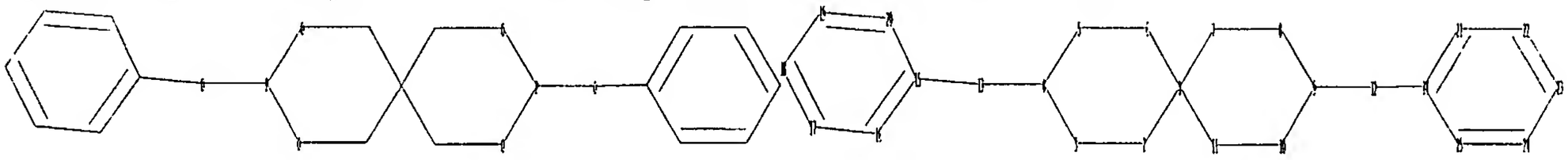
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of

experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10707402\a3.str

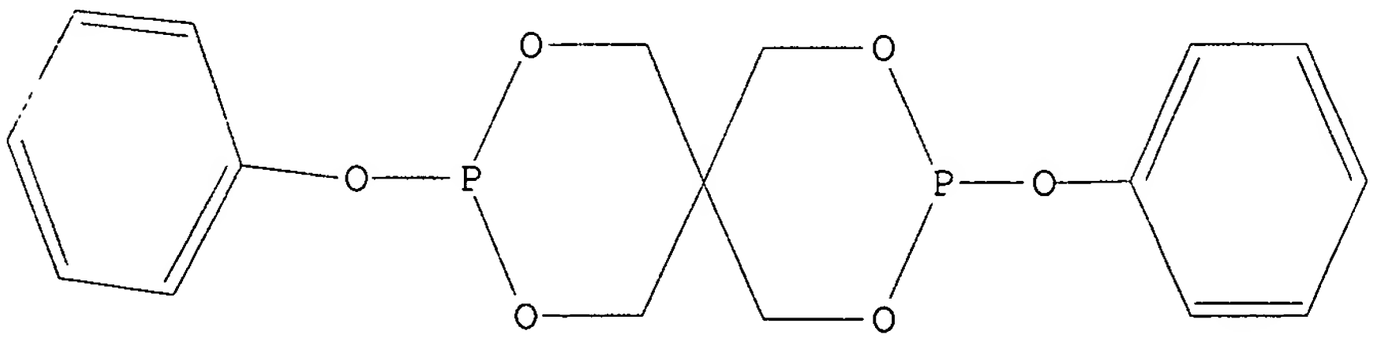


chain nodes :
12 13
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 14 15 16 17 18 19 20 21 22 23 24 25
chain bonds :
4-13 9-12 12-14 13-15
ring bonds :
1-2 1-6 1-7 1-11 2-3 3-4 4-5 5-6 7-8 8-9 9-10 10-11 14-21 14-25 15-16
15-20 16-17 17-18 18-19 19-20 21-22 22-23 23-24 24-25
exact/norm bonds :
1-2 1-6 1-7 1-11 2-3 3-4 4-5 4-13 5-6 7-8 8-9 9-10 9-12 10-11 12-14
13-15
normalized bonds :
14-21 14-25 15-16 15-20 16-17 17-18 18-19 19-20 21-22 22-23 23-24 24-25

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:CLASS 13:CLASS 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom

L10 STRUCTURE UPLOADED

=> d
L10 HAS NO ANSWERS
L10 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l10 full
FULL SEARCH INITIATED 09:59:19 FILE 'REGISTRY'

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FULL SCREEN SEARCH COMPLETED - 968 TO ITERATE

100.0% PROCESSED 968 ITERATIONS 223 ANSWERS
SEARCH TIME: 00.00.01

L11 223 SEA SSS FUL L10

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	166.94	669.35

FILE 'CAPLUS' ENTERED AT 09:59:23 ON 22 SEP 2006
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FILE COVERS 1907 - 22 Sep 2006 VOL 145 ISS 14
FILE LAST UPDATED: 21 Sep 2006 (20060921/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l3 and l6 and l11
14466 L3
37753 L6
1504 L11
L12 11 L3 AND L6 AND L11

=> d ibib abs hitstr

L12 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:527465 CAPLUS
DOCUMENT NUMBER: 143:44536
TITLE: Manufacture of pentaerythritol diphosphites of favored high spiro isomer content
INVENTOR(S): Larke, Carroll W.
PATENT ASSIGNEE(S): Dover Chemical Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

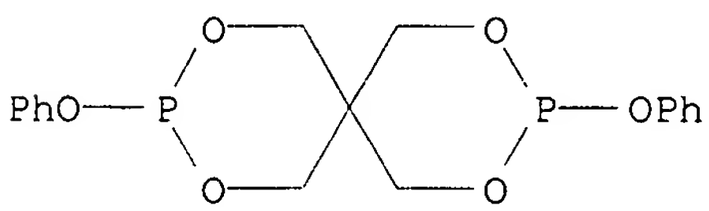
US 2005131244 A1 20050616 US 2003-707402 20031211
CA 2548088 AA 20050707 CA 2004-2548088 20041123
WO 2005060500 A2 20050707 WO 2004-US39200 20041123
WO 2005060500 A3 20051110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1692150 A2 20060823 EP 2004-811847 20041123
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
PRIORITY APPLN. INFO.: US 2003-707402 A 20031211
WO 2004-US39200 W 20041123
OTHER SOURCE(S): MARPAT 143:44536

AB The pentaerythritol diphosphites are produced by sequential transesterification of pentaerythritol with a monophosphite followed by a substituted phenol or other alc., where the transesterification reactions are carried out under controlled conditions of temperature and pressure to favor high spiro isomer content. The preferred product bis(2,4-dicumylphenyl) pentaerythritol diphosphite was prepared

IT 144-35-4P, Diphenyl pentaerythritol diphosphite
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and transesterification; two-stage transesterification of pentaerythritol in manufacture of pentaerythritol diphosphites of high spiro isomer content)

RN 144-35-4 CAPLUS

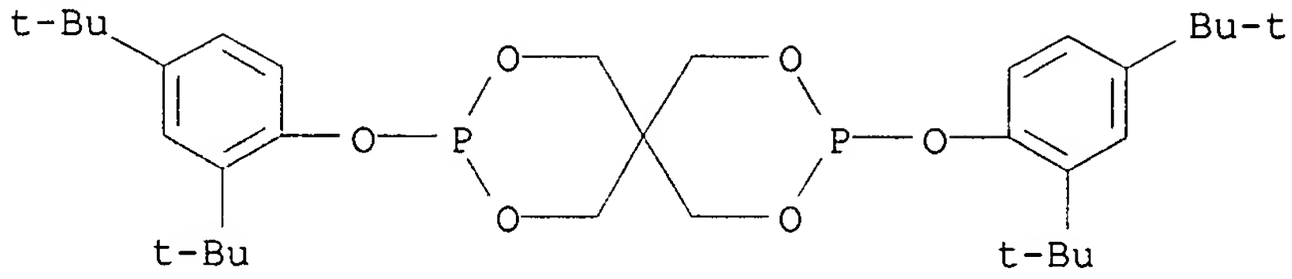
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy- (9CI) (CA INDEX NAME)



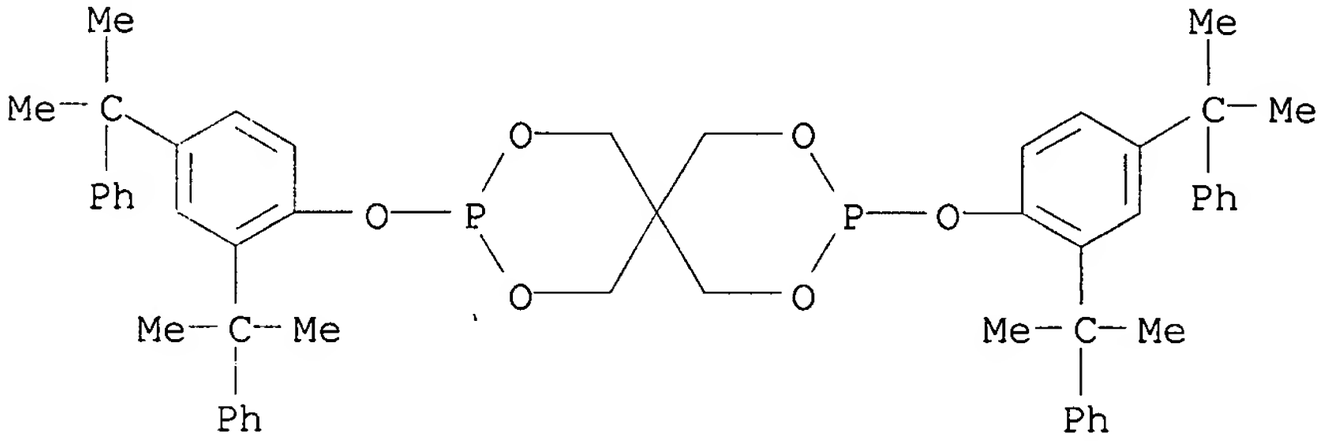
IT 26741-53-7P, Bis(2,4-di-tert-butylphenyl) pentaerythritol diphosphite 154862-43-8P, Bis(2,4-dicumylphenyl) pentaerythritol diphosphite
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(two-stage transesterification of pentaerythritol in manufacture of pentaerythritol diphosphites of high spiro isomer content)

RN 26741-53-7 CAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- (9CI) (CA INDEX NAME)

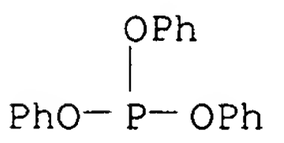


RN 154862-43-8 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1-methyl-1-phenylethyl)phenoxy]- (9CI) (CA INDEX NAME)

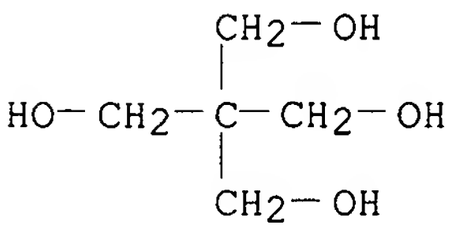


IT 101-02-0, Triphenyl phosphite 115-77-5, Pentaerythritol, reactions 121-45-9, Trimethyl phosphite 122-52-1, Triethyl phosphite
RL: RCT (Reactant); RACT (Reactant or reagent)
(two-stage transesterification of pentaerythritol in manufacture of pentaerythritol diphosphites of high spiro isomer content)

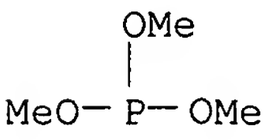
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



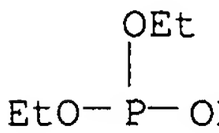
RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



RN 121-45-9 CAPLUS
CN Phosphorous acid, trimethyl ester (8CI, 9CI) (CA INDEX NAME)



RN 122-52-1 CAPLUS
CN Phosphorous acid, triethyl ester (8CI, 9CI) (CA INDEX NAME)

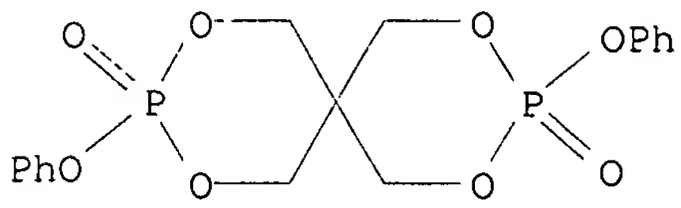


=> d ibib abs hitstr 2-11

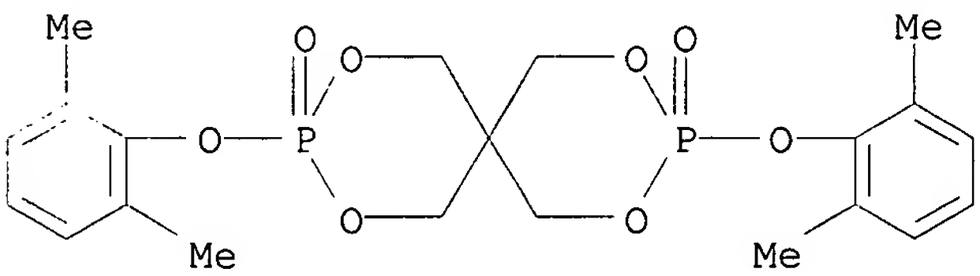
L12 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:397858 CAPLUS
DOCUMENT NUMBER: 136:402596
TITLE: Halogen-free flame-retardant styrene polymer compositions
INVENTOR(S): Endo, Shigeru; Imai, Shoji
PATENT ASSIGNEE(S): A and M Styren Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002155179	A2	20020528	JP 2000-355223	20001122

PRIORITY APPLN. INFO.: JP 2000-355223 20001122
OTHER SOURCE(S): MARPAT 136:402596
AB The compns. comprise 100 parts styrene polymers (percentage of residues after weight loss at 500° <25%) and 5-50 parts halogen-free flame-retardant components (Mw 2000-500,000, percentage of residues after weight loss at 500° ≥25%, m.p. 100-400°) dispersed as particles (average size 0.01-5 μm) in the styrene polymers. Thus, a composition containing high-impact polystyrene (prepared by grafting styrene onto polybutadiene rubber) 80, polystyrene 20, and styrene-tetraphenylphosphonium p-styrenesulfonate copolymer (char formation 36%; prepared by reaction of styrene-Na p-styrenesulfonate copolymer with Ph4P+Cl-) 30 parts was pelletized and injection-molded to give test pieces showing Izod impact strength 6.5 kg-cm/cm, deflection temperature under load 78°, UL-94 flame retardance rating V-0, and good appearance.
IT 55120-33-7P, Diphenyl pentaerythritol diphosphate
97994-13-3P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(flame retardant; halogen-free flame-retardant styrene polymer compns.)
RN 55120-33-7 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy-, 3,9-dioxide (9CI) (CA INDEX NAME)



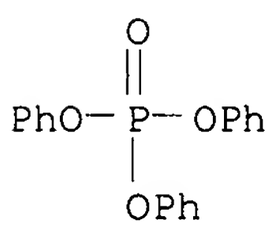
RN 97994-13-3 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(2,6-dimethylphenoxy)-, 3,9-dioxide (9CI) (CA INDEX NAME)



IT 31870-48-1, CR 741
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(flame retardant; halogen-free flame-retardant styrene polymer compns.)
RN 31870-48-1 CAPLUS
CN Phosphoric acid, triphenyl ester, polymer with 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

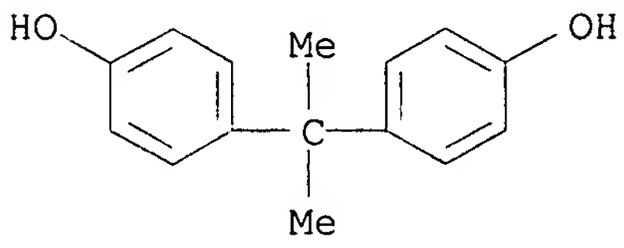
CM 1

CRN 115-86-6
CMF C18 H15 O4 P



CM 2

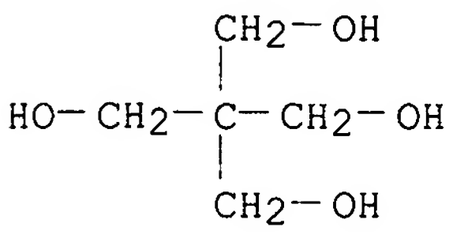
CRN 80-05-7
CMF C15 H16 O2



IT 115-77-5, Pentaerythritol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; halogen-free flame-retardant styrene polymer compns.)
RN 115-77-5 CAPLUS

Andrew Freistein 10/707,402

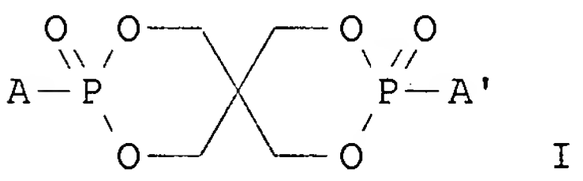
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



L12 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:98665 CAPLUS
DOCUMENT NUMBER: 136:152007
TITLE: Halogen-free fireproof resin compositions and their moldings
INVENTOR(S): Yamanaka, Katsuhiro; Furuya, Kazuhiko; Taketani, Yutaka
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002037973	A2	20020206	JP 2000-220008	20000721
PRIORITY APPLN. INFO.:			JP 2000-220008	20000721
OTHER SOURCE(S):	MARPAT 136:152007			

GI

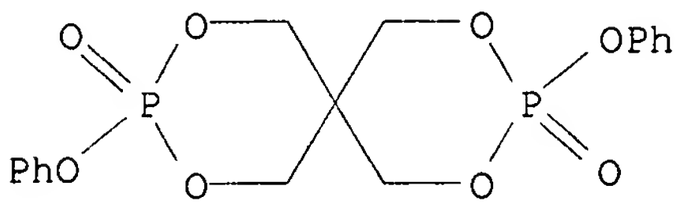


I

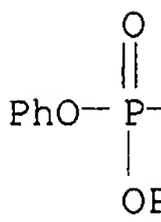
AB Title compns. comprise 100 parts resins containing ≥50% impact-resistant polystyrene and 1-50 parts I (A, A' = OR or Q with R, Q = C1-12 alkyl, C5-10 cycloalkyl, C7-20 aralkyl, C6-15 aryl). A mixture of 100 parts a butadiene-styrene graft copolymer (II, containing 4.3% rubber) and 5 parts I (A, A' = OPh; prepared from pentaerythritol and phenyldichlorophosphate) was kneaded and injection molded into a test piece with heat distortion temperature (HDT) of 73.4° (with 102.5% retention to the HDT of II) and UL 94 test V-2.

IT 55120-33-7P, 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5,5]undecane, 3,9-diphenoxy-3,9-dioxide
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(pentaerythritol phosphate-containing rubber-modified styrene resin blends for heat- and fire-resistant moldings)

RN 55120-33-7 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy-, 3,9-dioxide (9CI) (CA INDEX NAME)



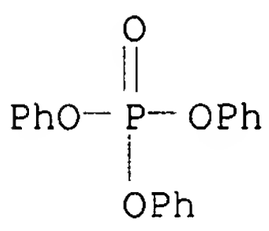
IT 115-86-6, Triphenyl phosphate 31870-48-1, CR 741
RL: MOA (Modifier or additive use); USES (Uses)
(pentaerythritol phosphate-containing rubber-modified styrene resin blends for heat- and fire-resistant moldings)
RN 115-86-6 CAPLUS
CN Phosphoric acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



RN 31870-48-1 CAPLUS
CN Phosphoric acid, triphenyl ester, polymer with 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

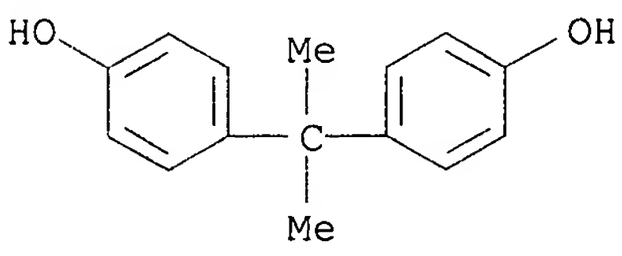
CM 1

CRN 115-86-6
CMF C18 H15 O4 P

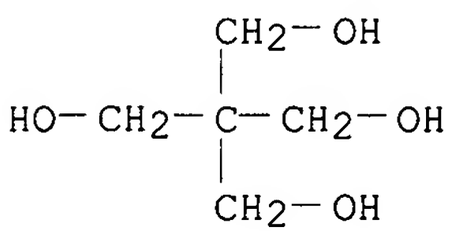


CM 2

CRN 80-05-7
CMF C15 H16 O2



IT 115-77-5, Pentaerythritol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(pentaerythritol phosphate-containing rubber-modified styrene resin blends for heat- and fire-resistant moldings)
RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



L12 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:603563 CAPLUS
DOCUMENT NUMBER: 131:229602
TITLE: Polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance
INVENTOR(S): Sato, Takahiro; Mukai, Akihiro; Taketani, Yutaka; Kobayashi, Yasuaki
PATENT ASSIGNEE(S): Teijin Chemicals Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

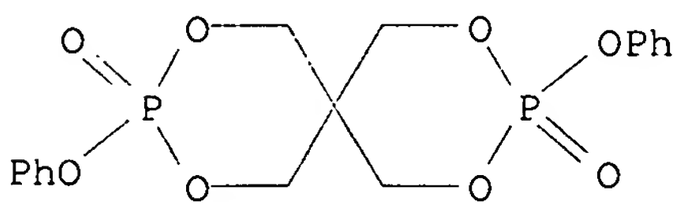
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11256022	A2	19990921	JP 1998-56774	19980309

PRIORITY APPLN. INFO.: JP 1998-56774 19980309
OTHER SOURCE(S): MARPAT 131:229602

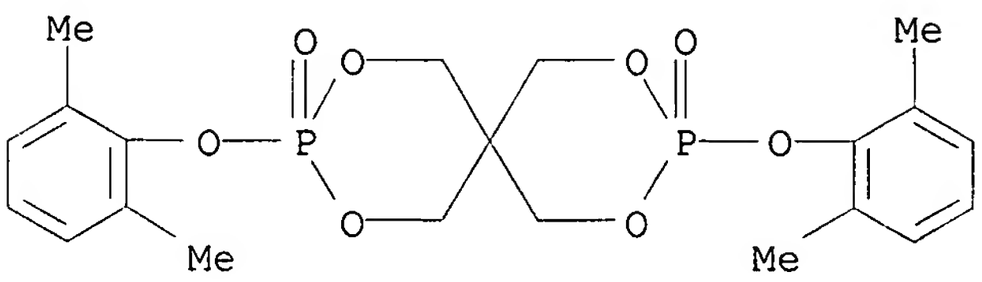
AB The composition comprises a mixture of a polycarbonate 40-97, a thermoplastic 0-45 and a cyclic phosphate of P(O)2OOR (R = C3-20 Ph, naphthyl, anthryl, pyridyl, triacyl) 2.5, a fluoropolymer 0.01-3% containing 80 phr talc, wherein the weight ratio of P in the phosphate and the talc is ≥0.25. Thus, a composition was made from Panlite L 1225WP 73.7, Santac UT 61, a diphenylpentaerythritol diphosphate, prepared by the reaction of 5757.7 g phosphorus oxychloride and 1024.3 g phenol in chlorobenzene in the presence of anhydride MgCl2 then with 3000 g pyridine and 300 g pentaerythritol, 6.0, Polyflon FA 500 0.3 and talc 0.3 part.

IT 55120-33-7P, Diphenylpentaerythritol diphosphate
97994-13-3P 239802-94-9P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance)

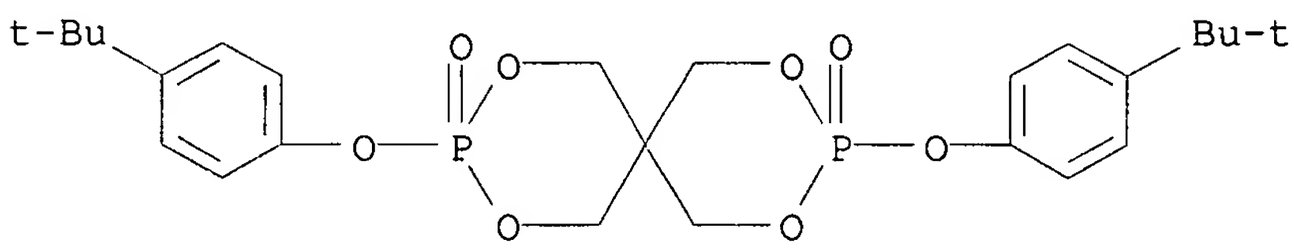
RN 55120-33-7 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy-, 3,9-dioxide (9CI) (CA INDEX NAME)



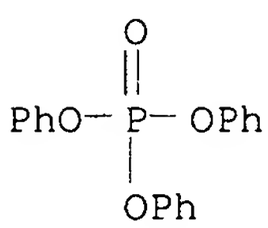
RN 97994-13-3 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis(2,6-dimethylphenoxy)-, 3,9-dioxide (9CI) (CA INDEX NAME)



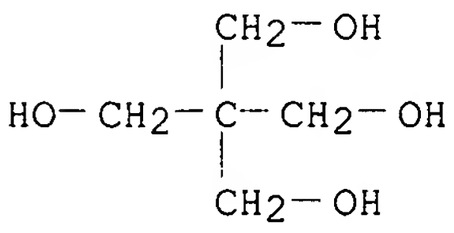
RN 239802-94-9 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[4-(1,1-dimethylethyl)phenoxy]-, 3,9-dioxide (9CI) (CA INDEX NAME)



IT 115-86-6, TPP
RL: MOA (Modifier or additive use); USES (Uses)
(polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance)
RN 115-86-6 CAPLUS
CN Phosphoric acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



IT 115-77-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polycarbonate-based thermoplastic fire-resistant composition with good heat and impact resistance)
RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



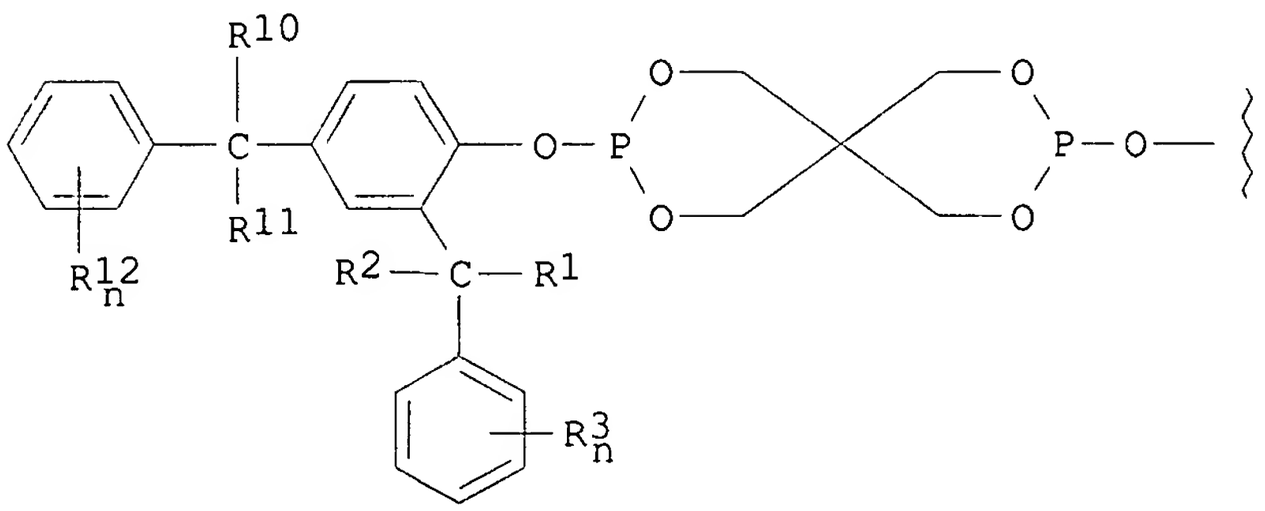
L12 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:792926 CAPLUS
DOCUMENT NUMBER: 124:8997
TITLE: Preparation of hydrolytically stable pentaerythritol diphosphites as polymer stabilizers
INVENTOR(S): Stevenson, Donald R.; Kodali, Satyanarayana
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 23 pp. Cont.-in-part of U.S. 5,364,895.

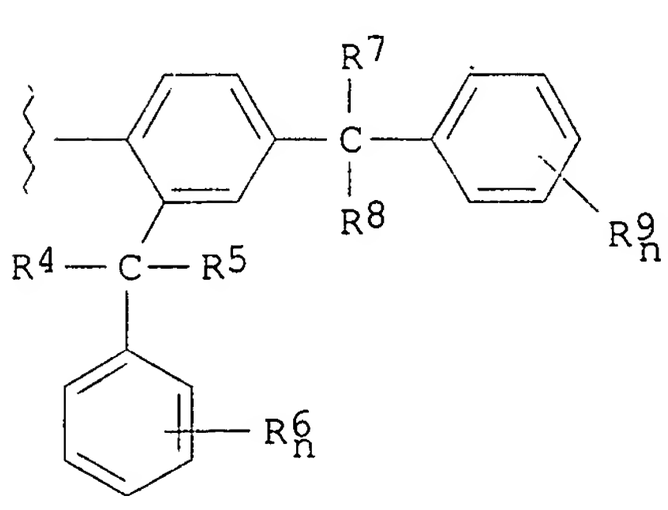
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5438086	A	19950801	US 1994-232950	19940425
AT 178068	E	19990415	AT 1993-904542	19930120
ES 2128418	T3	19990516	ES 1993-904542	19930120
US 5364895	A	19941115	US 1993-108658	19930830
WO 9506651	A1	19950309	WO 1994-US4520	19940425
W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KP, KR, KZ, LK, LU, LV, NO, NZ, PL, RO, RU, SK, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9470152	A1	19950322	AU 1994-70152	19940425
CN 1137798	A	19961211	CN 1994-193721	19940425
CN 1048019	B	20000105		

PRIORITY APPLN. INFO.:		
US 1993-108658	A2	19930830
EP 1993-904542	A	19930120
WO 1993-US499	W	19930120
WO 1994-US4520	W	19940425

OTHER SOURCE(S): MARPAT 124:8997
GI



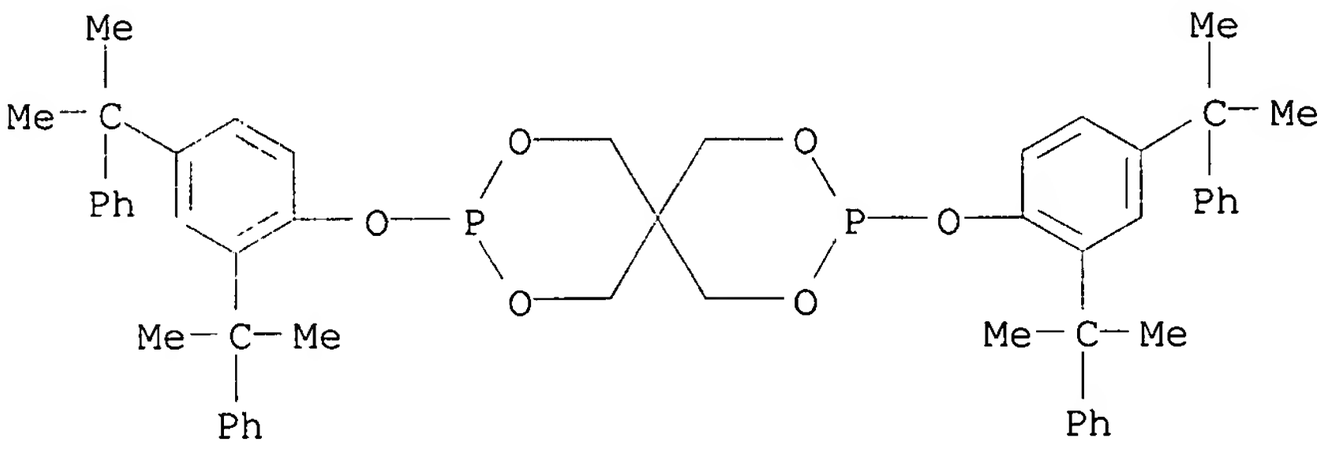


I

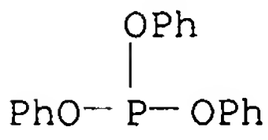
AB A class of hydrolytically stable bis(aralkylphenyl)pentaerythritol diphosphites I (R1, R2, R4, R5, R7, R8, R10, R11 = H, CmH2m+1 alkyl, m = 1-4; R3, R6, R9, R12 = H, halo, CmH2m+1 alkyl, m = 1-4; n = 0-3) is claimed, suitable as antioxidant additives in polyolefins, particularly in

polypropylene. The diphosphites are of low volatility, have a high thermal decomposition temperature and resist yellowing when blended into a polyolefin base. Compound I (R1 = R2 = R4 = R5 = R7 = R8 = R10 = R11 = Me, R3 = R6 = R9 = R12 = H) (preparation given) is a preferred phosphite, affording a Hunter YI yellowness color index of 15.5 when 0.2% is added to polypropylene.

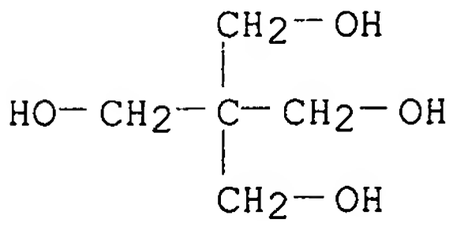
IT 154862-43-8P
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of hydrolytically stable pentaerythritol diphosphites as polymer stabilizers)
RN 154862-43-8 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1-methyl-1-phenylethyl)phenoxy]- (9CI) (CA INDEX NAME)



IT 101-02-0, Triphenyl phosphite 115-77-5, Pentaerythritol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of hydrolytically stable pentaerythritol diphosphites as polymer stabilizers)
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



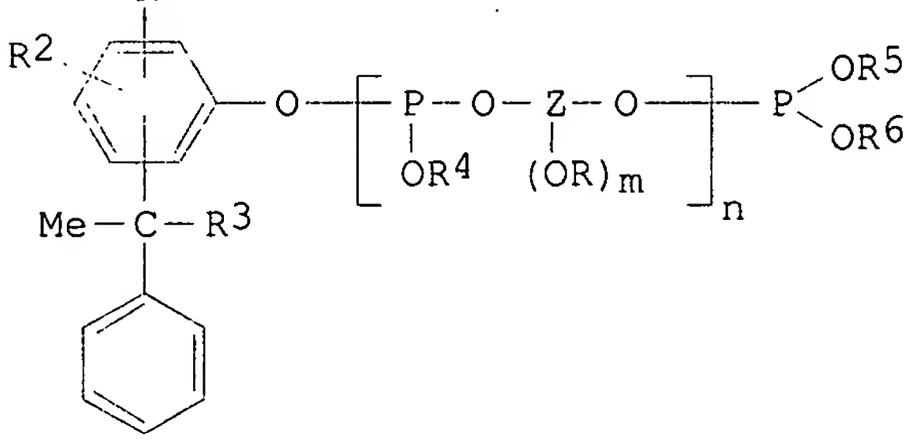
L12 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:593128 CAPLUS
DOCUMENT NUMBER: 101:193128
TITLE: Phenylethylidene-substituted phenyl polyphosphites
INVENTOR(S): Leistner, William E.; Minagawa, Motonobu; Nakahara, Yutaka; Kitsukawa, Kazumi

Andrew Freistein 10/707,402

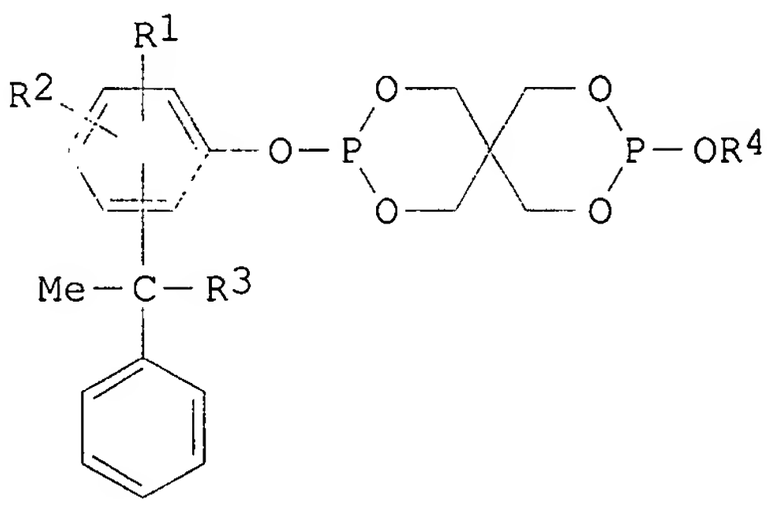
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4463112	A	19840731	US 1980-121133	19800213

PRIORITY APPLN. INFO.: US 1980-121133 19800213
GI



I



II

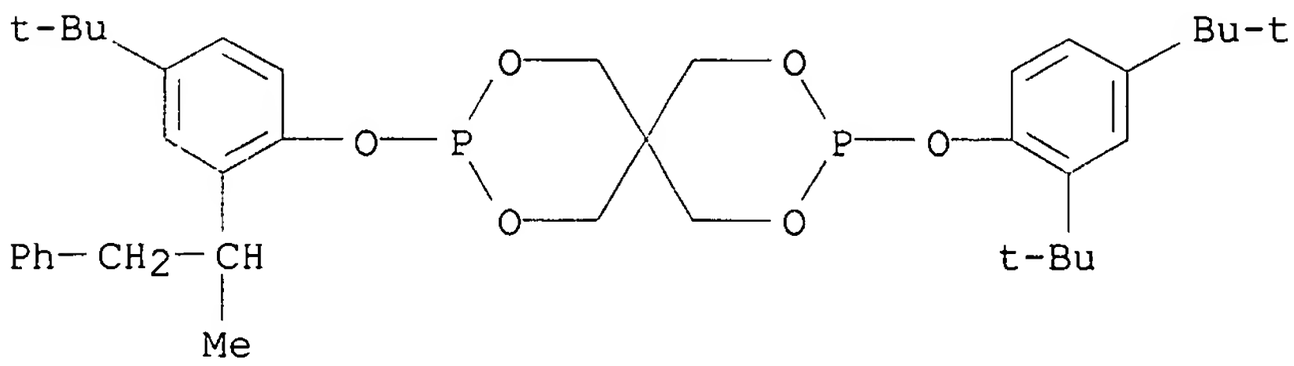
AB Polyphosphites I or II [R = H or P(OR5)OR6; R1 and R2 = H, alkyl, alkoxy, aryl, alkaryl, aralkyl, or halogen; R3 = H or Me; R4, R5, and R6 = H, alkyl, cycloalkyl, aryl, alkaryl, or aralkyl; Z = a divalent phenol or alc. residue] are useful as light and heat stabilizers for polymers. Thus, Ph3P [101-02-0] 46.5, bisphenol A [80-05-7] 22.8, 2(2-phenylisopropyl)-4-methylphenol [92625-21-3] 33.9, tridecanol [26248-42-0] 20.0, and K2CO3 0.1 g were heated 3 h at 150° in a N atmospheric, then PhOH was distilled off at 160°, and after cooling tris[2-(2-phenylisopropyl)-4-methylphenyl] bis(tridecyl) bis(bisphenol A) triphosphite (III) [92673-81-9] was obtained. A PVC [9002-86-2] sheet containing epoxidized linseed oil 2.0, Mg stearate 0.2, Ca stearate 1.0, Zn stearate 0.4, and III 0.7 phr had heat stability 90 min, initial color 12, and plate out value (according to Watchung-red method) 15, compared with 45, 24, and 80, resp., for a PVC sheet containing tris(nonylphenyl) phosphite instead of III.

IT 92668-78-5P 92668-79-6P 92668-80-9P
92668-81-0P
RL: PREP (Preparation)

(heat and light stabilizers, manufacture of)

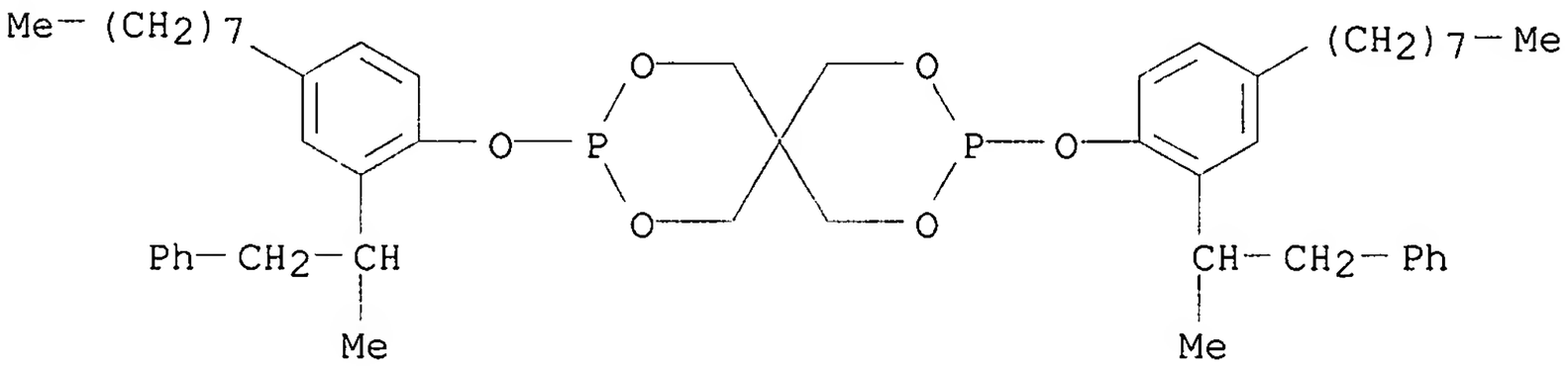
RN 92668-78-5 CAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3-[2,4-bis(1,1-dimethylethyl)phenoxy]-9-[4-(1,1-dimethylethyl)-2-(1-methyl-2-phenylethyl)phenoxy]- (9CI) (CA INDEX NAME)



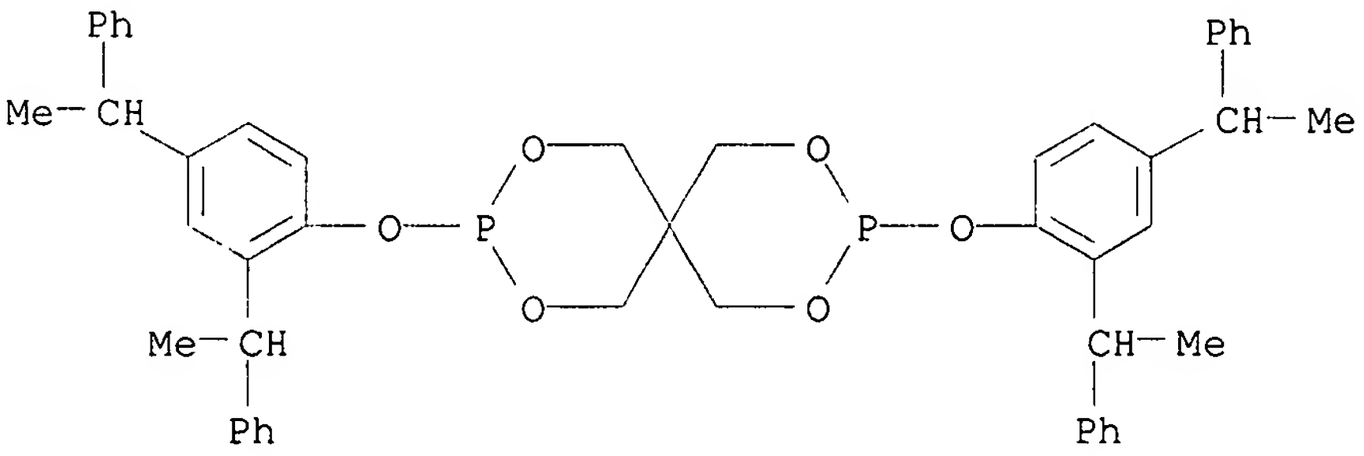
RN 92668-79-6 CAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2-(1-methyl-2-phenylethyl)-4-octylphenoxy]- (9CI) (CA INDEX NAME)



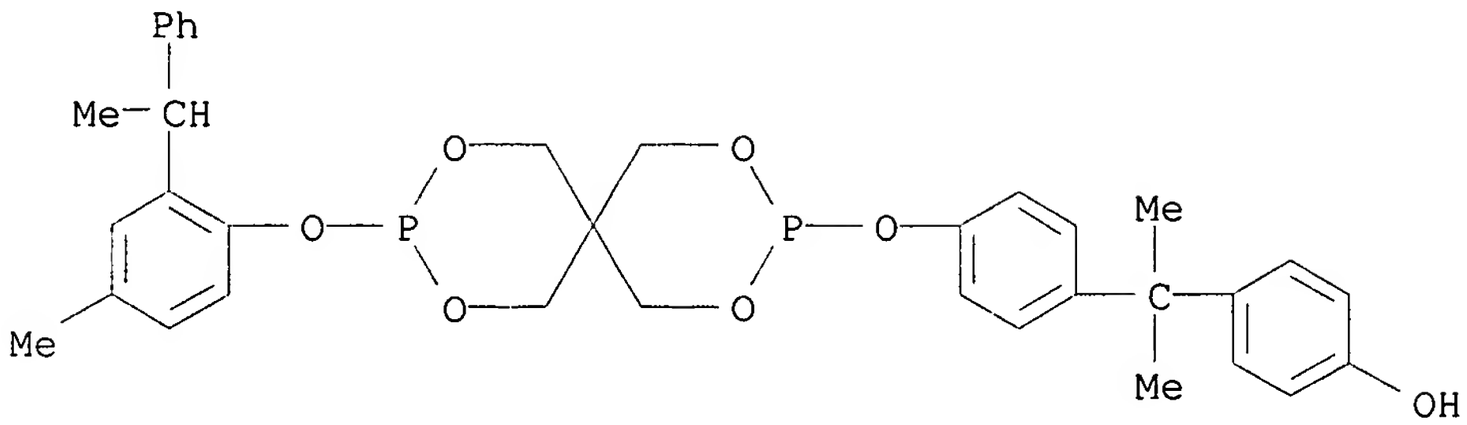
RN 92668-80-9 CAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1-phenylethyl)phenoxy]- (9CI) (CA INDEX NAME)

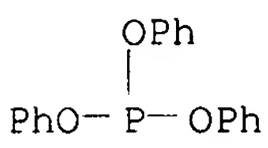


RN 92668-81-0 CAPLUS

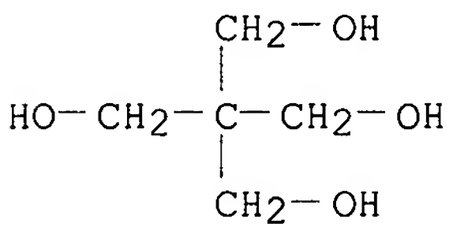
CN Phenol, 4-[1-methyl-1-[4-[[9-[4-methyl-2-(1-phenylethyl)phenoxy]-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undec-3-yl]oxy]phenyl]ethyl]- (9CI) (CA INDEX NAME)



IT 101-02-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with alcs. and phenols, in manufacture of heat and light stabilizers)
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



IT 115-77-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols and tri-Ph phosphite, in manufacture of heat and light stabilizers)
RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



L12 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:7853 CAPLUS
DOCUMENT NUMBER: 100:7853
TITLE: Stabilized halogen-containing resin compositions
PATENT ASSIGNEE(S): Adeka Argus Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

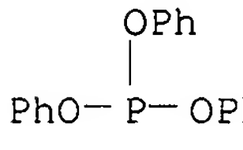
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58122951	A2	19830721	JP 1982-5843	19820118
JP 02027376	B4	19900615		
PRIORITY APPLN. INFO.:			JP 1982-5843	19820118

AB The title compns. contain halogen-containing resins blended with (a) ≥1

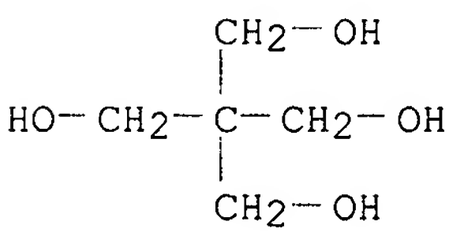
metallic salts of organic acids, (b) ≥1 compound selected from hydrotalcites, wollastonites, tobermorites and gyrolites, and (c) ≥1 halooxo acid salts. Thus, PVC [9002-86-2] 100, epoxidized linseed oil 2.0, Zn stearate [557-05-1] 0.5, Ba stearate [6865-35-6] 1.0, hydrotalcite DHT-4A 0.2, and K perchlorate 0.1 parts were kneaded and pressed to give a 1-mm thick sheet with excellent initial color, good clarity, and thermal stability of 110 min (190°).

IT 101-02-0 115-77-5, uses and miscellaneous
64022-67-9
RL: USES (Uses)
(stabilizer mixts. containing, for halogen-containing resins)

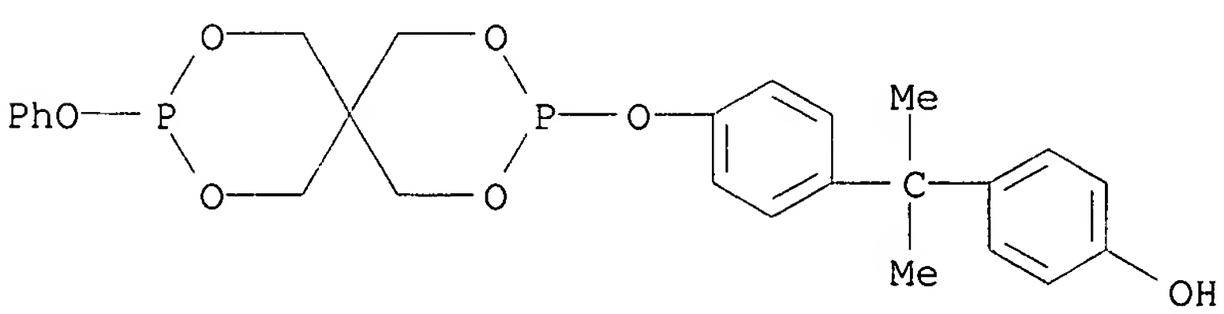
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



RN 64022-67-9 CAPLUS
CN Phenol, 4-[1-methyl-1-[4-[(9-phenoxy-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undec-3-yl)oxy]phenyl]ethyl]- (9CI) (CA INDEX NAME)



L12 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:527811 CAPLUS
DOCUMENT NUMBER: 97:127811
TITLE: Phosphorous acid esters containing hydroxyphenyl groups and their use as stabilizers for thermoplastic polyesters
INVENTOR(S): Buysch, Hans Josef; Binsack, Rudolf; Rempel, Dieter
PATENT ASSIGNEE(S): Bayer A.-G. , Fed. Rep. Ger.
SOURCE: Eur. Pat. Appl., 56 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 48878	A1	19820407	EP 1981-107218	19810914
EP 48878	B1	19840718		
R: CH, DE, FR, GB, IT, NL				
DE 3036391	A1	19820513	DE 1980-3036391	19800926
JP 57082394	A2	19820522	JP 1981-148918	19810922
JP 03049914	B4	19910731		

PRIORITY APPLN. INFO.: DE 1980-3036391 A 19800926

GI For diagram(s), see printed CA Issue.

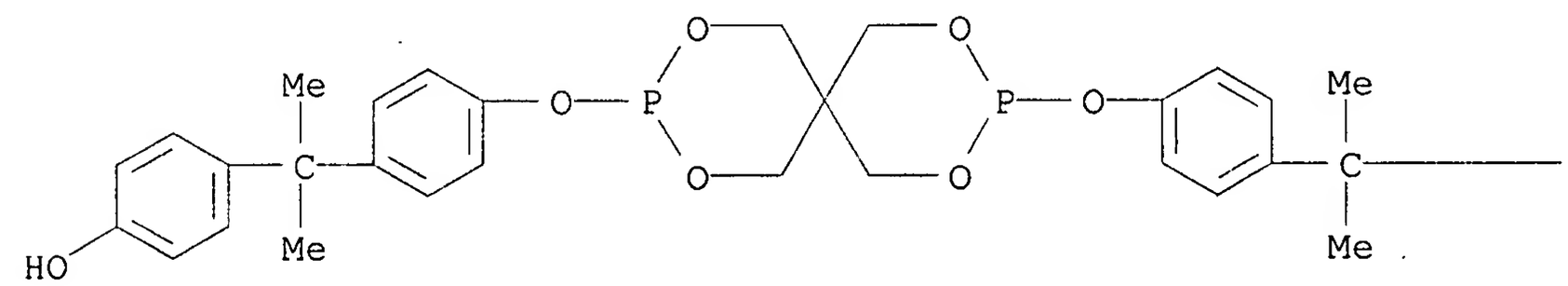
AB Phosphites I [R1, R2 = H, alkyl, cycloalkyl, aralkyl; R3, R4 = R1, R2, ≥1 of R3 and R4 ≠ H when Z = CH2 or CMe2; Z = O, S, CH2CMe2, CMe(CH2)yCO2R, bond; m, n, r = 0, 1; x, y = 1-3; R = H, alkyl, cyclohexyl; R5 = H, Me, Et, R8OCH2, R9CO2CH2, R10O2COCH2, CH2; R6 = CH2; R7 = H, O, carbonate, Me, R11On, R12(CO2)n, R13(O2CO)n, a di- or trivalent C1-32 group which links the group(s) in braces via O, carbonate, carboxylate, phosphite, or phosphate; R8-R13 = H, aliphatic, olefinic, araliph., aliphatic-aromatic or aromatic group; R5CR6 and optionally R7 form a 4-6 membered ring with 3-36 C and mol. weight ≤600, optionally containing ether and ester groups], useful as stabilizers for thermoplastic polyesters (extensive data tabulated), were prepared A mixture of P(OPh)3 and C(CH2OH)4 was transesterified at 140-170°/7-8 mbar, [3,5,4-Me2(HO)C6H2]2CMe2 added, and the mixture heated at 210°/8-9 mbar to give II.

IT 4029-04-3DP, Bu derivative 59732-34-2P 82749-88-0P
82749-90-4P 82749-91-5P 82749-92-6P
82749-93-7P 82749-94-8P 82749-95-9P
82749-96-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

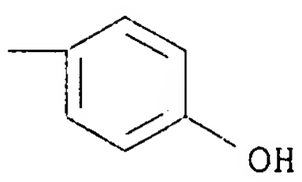
RN 4029-04-3 CAPLUS

CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis[oxy-4,1-phenylene(1-methylethylidene)]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

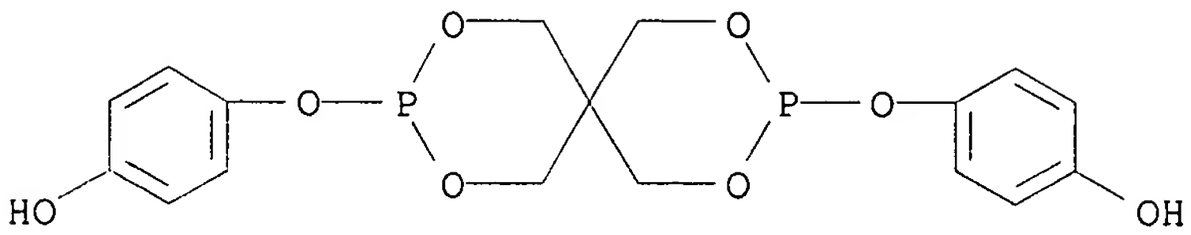


PAGE 1-B



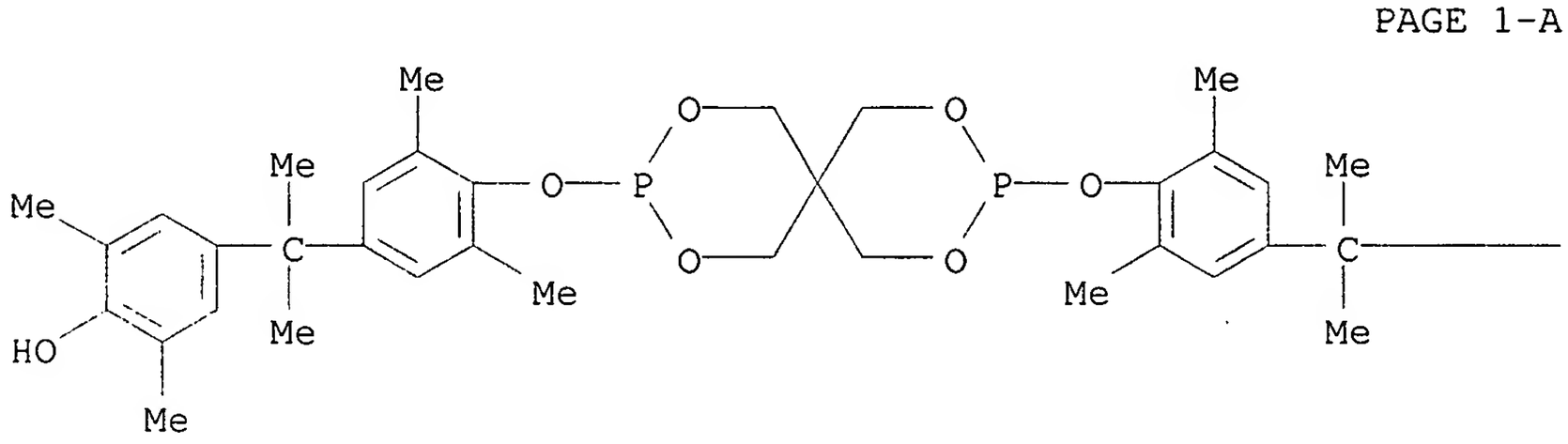
RN 59732-34-2 CAPLUS

CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy)]bis- (9CI) (CA INDEX NAME)

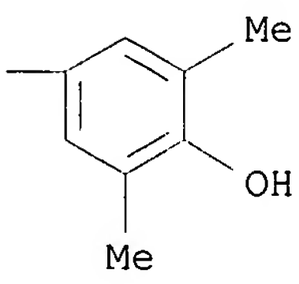


RN 82749-88-0 CAPLUS
CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis[oxy(3,5-dimethyl-4,1-phenylene)(1-methylethylidene)]]bis[2,6-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

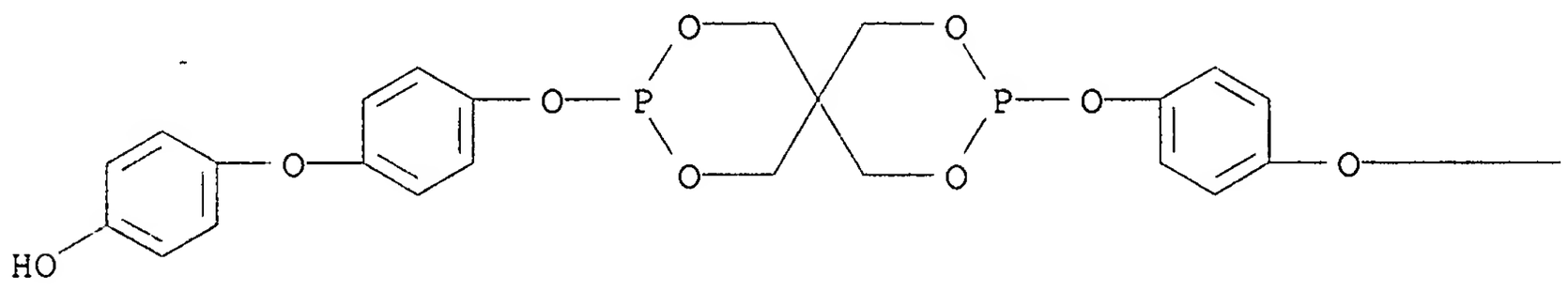


PAGE 1-B

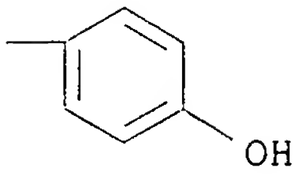


RN 82749-90-4 CAPLUS
CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy-4,1-phenyleneoxy)]bis- (9CI) (CA INDEX NAME)

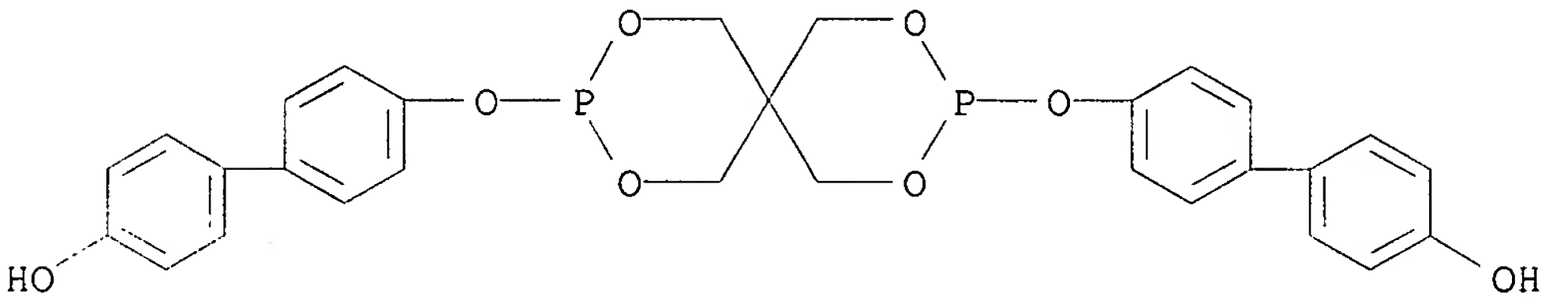
PAGE 1-A



PAGE 1-B

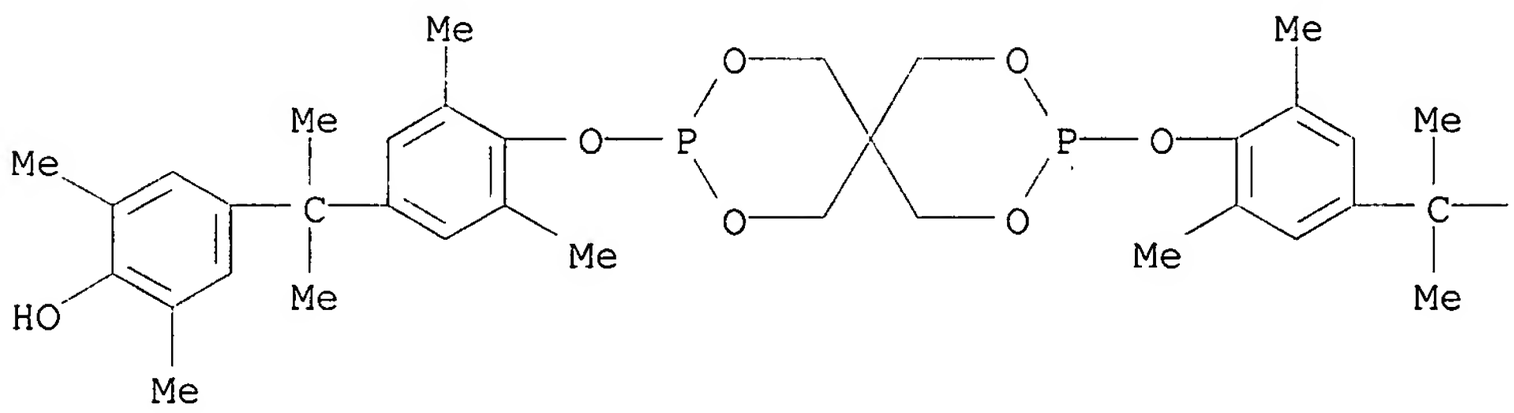


RN 82749-91-5 CAPLUS
CN [1,1'-Biphenyl]-4-ol, 4',4'''-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy)]bis- (9CI) (CA INDEX NAME)

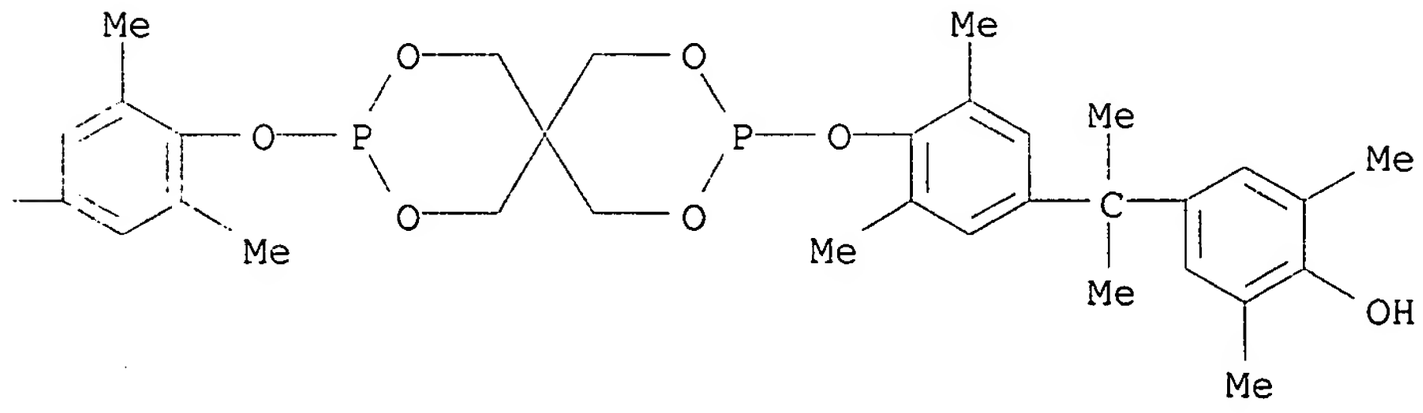


RN 82749-92-6 CAPLUS
CN Phenol, 4,4'-[(1-methylethylidene)bis[(2,6-dimethyl-4,1-phenylene)oxy-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-9,3-diyloxy(3,5-dimethyl-4,1-phenylene)(1-methylethylidene)]]bis[2,6-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



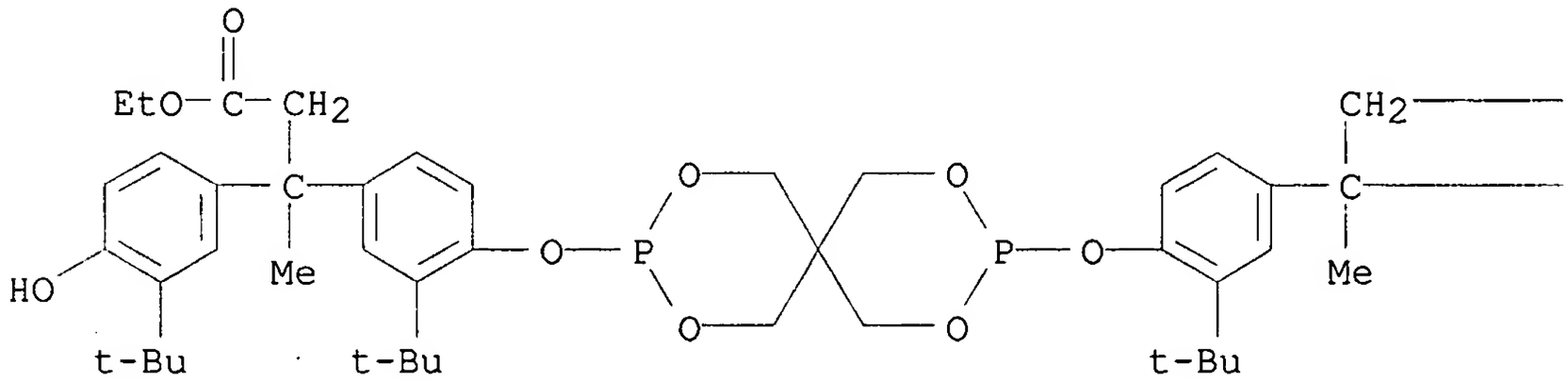
PAGE 1-B



RN 82749-93-7 CAPLUS

CN Benzenepropanoic acid, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy)]bis[3-(1,1-dimethylethyl)-β-[3-(1,1-dimethylethyl)-4-hydroxyphenyl]-β-methyl-, diethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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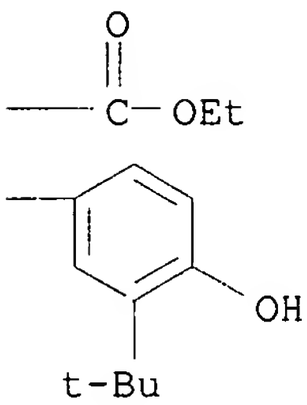
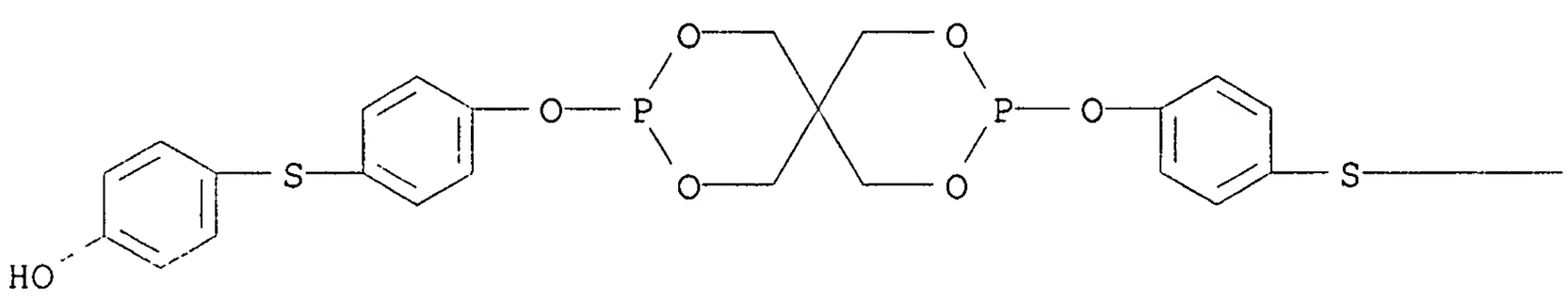


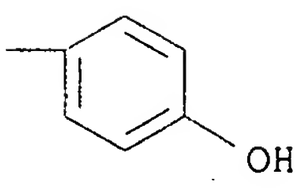
RN 82749-94-8 CAPLUS

CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy-4,1-phenylenethio)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

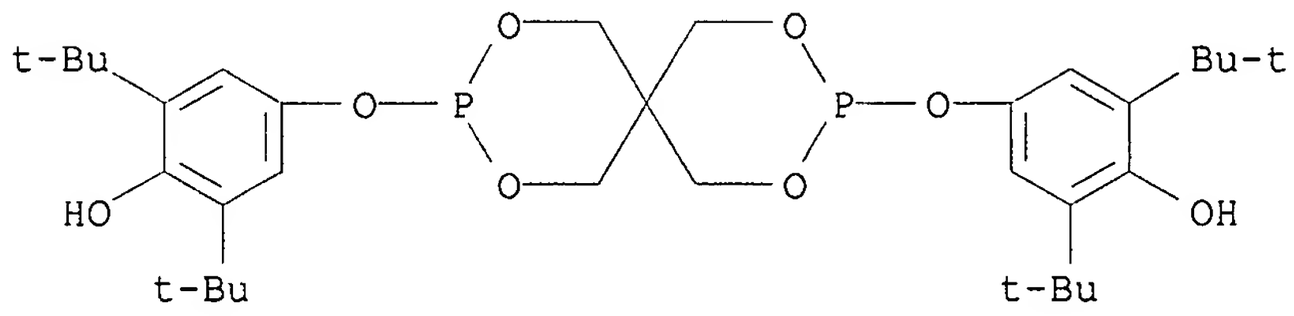


PAGE 1-B



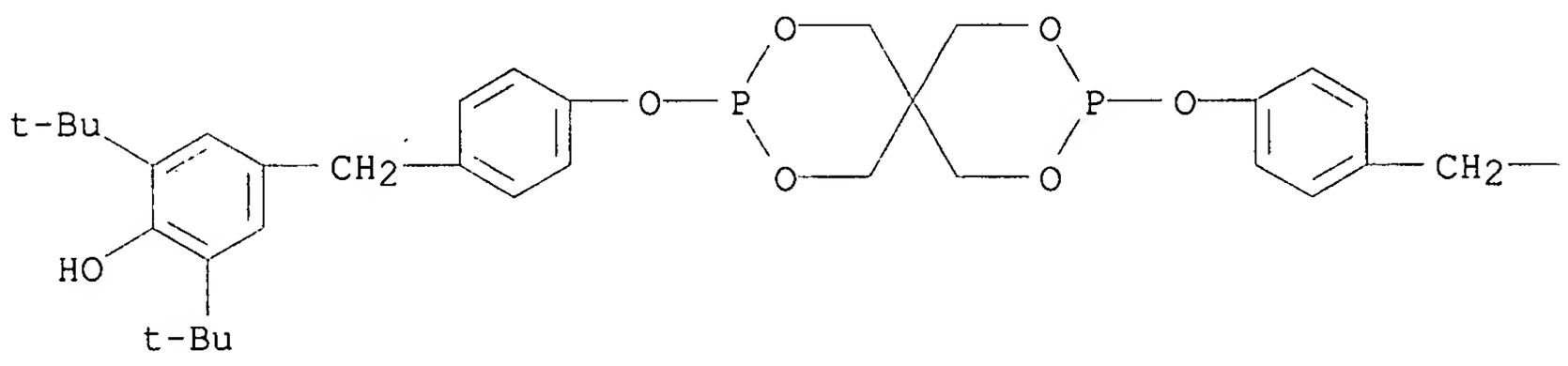
RN 82749-95-9 CAPLUS

CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy)]bis[2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



RN 82749-96-0 CAPLUS
CN Phenol, 4,4'-[2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-diylbis(oxy-4,1-phenylenemethylene)]bis[2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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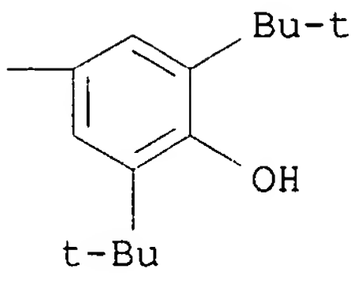
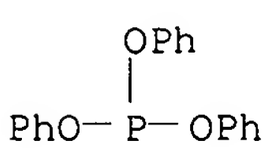
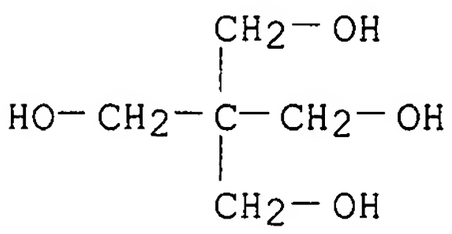


IT 101-02-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of, with phenols and alcs.)
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



IT 115-77-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of, with tri-Ph phosphite)
RN 115-77-5 CAPLUS

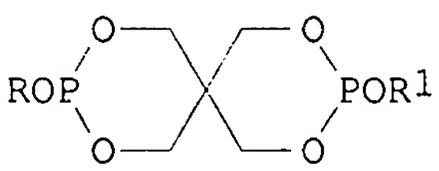
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



L12 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1977:141016 CAPLUS
DOCUMENT NUMBER: 86:141016
TITLE: Aromatic copolyester compositions
INVENTOR(S): Asahara, Nakaba; Takao, Hiroyuki; Yasue, Kenji
PATENT ASSIGNEE(S): Unitika Ltd., Japan
SOURCE: Ger. Offen., 41 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2633944	A1	19770217	DE 1976-2633944	19760728
DE 2633944	C2	19860327		
JP 52016558	A2	19770207	JP 1975-93300	19750730
JP 59005141	B4	19840202		

PRIORITY APPLN. INFO.: JP 1975-93300 A 19750730
GI

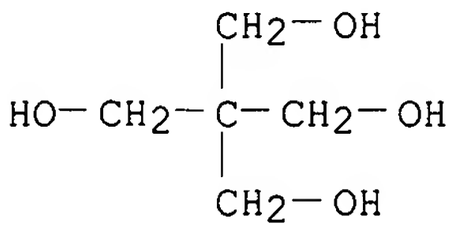


I

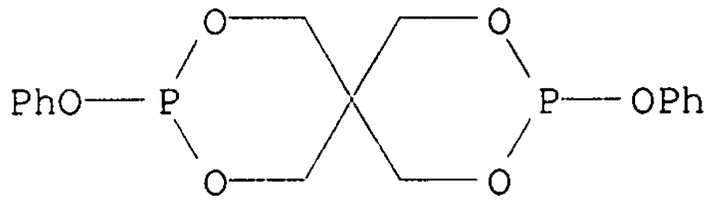
AB A phosphite compound such as compound I (R and R1 = alkyl, cycloalkyl, or aryl) or a copolymer [62350-00-9] of P(OPh)3, C(CH2OH)4, and bisphenol A and, in some cases, a metal salt such as AcONa [127-09-3] or Ca stearate [1592-23-0] were added to a copolymer [25639-68-3] of bisphenol A, isophthaloyl dichloride (II), and terephthaloyl dichloride (III) to improve the resistance of the copolymer to cracking in hot water or steam without affecting the mech. properties, fire resistance, or color of the copolymer. Thus, a copolymer prepared from bisphenol A 22.5, II 10, and III 10 kg and containing 0.1% I (R = R1 = C18H37) [3806-34-6] had impact strength 190 kg-cm/cm2 and was undamaged after 24 h in water at 100°. A copolymer containing no I had impact strength 70 kg-cm/cm2 and contained cracks.

IT 115-77-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphite esters)

RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



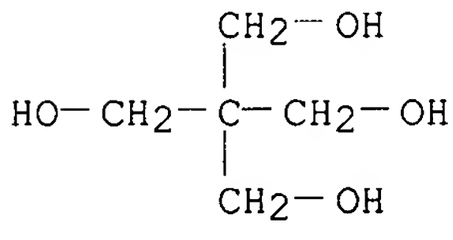
IT 144-35-4 62350-00-9
RL: USES (Uses)
(stabilizers, aromatic polyesters containing, for improved water resistance)
RN 144-35-4 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy- (9CI)
(CA INDEX NAME)



RN 62350-00-9 CAPLUS
CN Phosphorous acid, triphenyl ester, polymer with 2,2-bis(hydroxymethyl)-1,3-propanediol and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

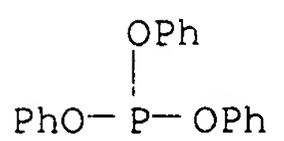
CM 1

CRN 115-77-5
CMF C5 H12 O4



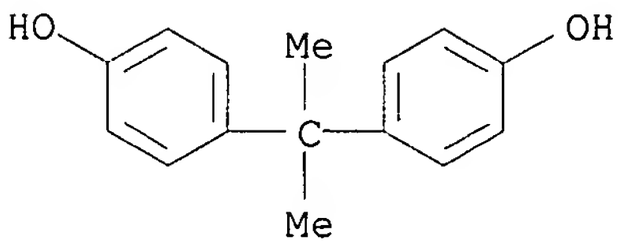
CM 2

CRN 101-02-0
CMF C18 H15 O3 P

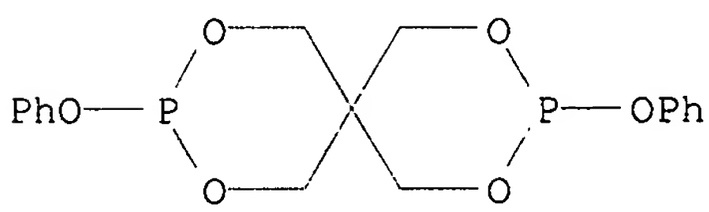


CM 3

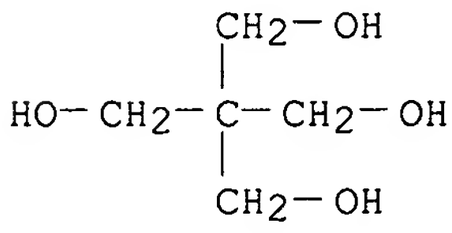
CRN 80-05-7
CMF C15 H16 O2



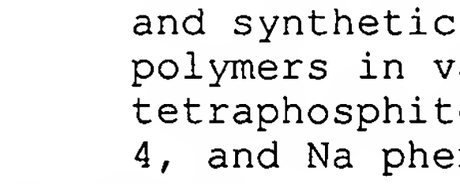
L12 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1973:465706 CAPLUS
DOCUMENT NUMBER: 79:65706
TITLE: Formation of isomeric diphenylpentaerythritoldiphosphites during the transesterification of triphenyl phosphite with pentaerythritol
AUTHOR(S): Gubaidullin, R. N.; Eganov, V. F.; Arshinova, R. P.; Mukmenev, E. T.
CORPORATE SOURCE: Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1973), (5), 1116-18
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB P(OPh)3 heated with C(CH2OH)4 at 100-20° in vacuo gave 5 transesterification products, from which the diphenyl pentaerythrityl diphosphite (I) was isolated in over 50% yield. This also formed from bicyclic pentaerythrityl bis-phosphorochloridite and PhOH in the presence of PhNH2 in CHCl3-C6H6. Bicyclic phosphite of 3 functional groups of pentaerythritol reacted with P(OPh)3 similarly to form II, which proved to be the other major (30%) product of the original reaction above.
IT 144-35-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 144-35-4 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy- (9CI) (CA INDEX NAME)



IT 115-77-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of triphenyl phosphite by)
RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)



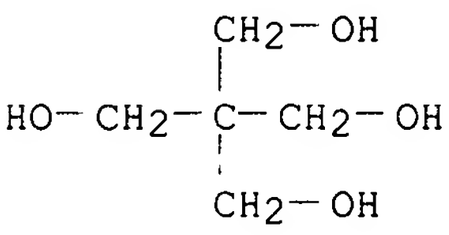
IT 101-02-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(transesterification of, with pentaerythritol)
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



L12 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1958:108894 CAPLUS
DOCUMENT NUMBER: 52:108894
ORIGINAL REFERENCE NO.: 52:19251i,19252a-c
TITLE: Pentaerythritol products
INVENTOR(S): Hechenbleikner, Ingenuin; Lanoue, Francis C.
PATENT ASSIGNEE(S): Shea Chemical Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

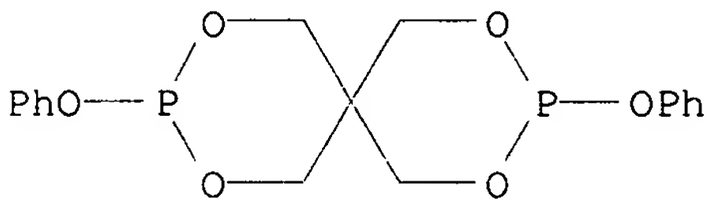
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2847443		19580812	US 1956-582075	19560502

GI For diagram(s), see printed CA Issue.
AB Phosphites of pentaerythritol (I) or I polymers which are useful as stabilizers for vinyl and vinylidine chloride resins, antipreignition gasoline additives, and antioxidants for lubricating oils and both natural and synthetic rubber are provided by interaction of (PhO)3P with I or I polymers in various proportions to obtain the I mono-, di-, tri-, or tetraphosphite. The phenyl groups can be substituted. Thus, I 1, Ph3PO3 4, and Na phenate 0.01 mole are mixed 0.5 hr. at room temperature and atmospheric
pressure and then at 120° and 10 mm. until all PhOH has distilled The residue is [(PhO)2POCH2]4C, m. 20°, nD20 1.58100, d420 1.2100, soluble in Me2CO, Et2O, toluene, C6H6, and glycol. Similarly were prepared the diphosphite of formula II, m. 123°; PhO-
P.O.CH2.C[CH2OP(OPh)2]2·CH2.O; a compound C82H76O19P, prepared from 3 moles (PhO)3P and 1 mole dipentaerythritol, and a compound C111H104O19P8 from 1 mole tripentaerythritol and 8 moles (PhO)3P. About 0.05-20% phosphite is used to stabilize the resins. Omission of the alkaline catalyst may result in discolored products.
IT 115-77-5, Pentaerythritol
(phosphites)
RN 115-77-5 CAPLUS
CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (9CI) (CA INDEX NAME)

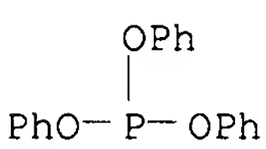


IT 144-35-4, 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane,

3,9-diphenoxy-
(preparation of)
RN 144-35-4 CAPLUS
CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-diphenoxy- (9CI) (CA INDEX NAME)



IT 101-02-0, Phenyl phosphite, (PhO)3P
(reaction products with dipentaerythritol and tripentaerythritol)
RN 101-02-0 CAPLUS
CN Phosphorous acid, triphenyl ester (8CI, 9CI) (CA INDEX NAME)



=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	57.13	726.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-8.25	-8.25

STN INTERNATIONAL LOGOFF AT 10:00:30 ON 22 SEP 2006